

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Withdrawn): A method of producing a brake disk that rotates integrally with a wheel, comprising an outer periphery pressing step for forming an outer peripheral shape of a rotor plate of the brake disk into an outer peripheral shape having recesses and ridges repeated in the radial direction by means of press molding, and a chamfering step for forming a chamfered surface on the rotor plate having the repeated shape formed in the outer periphery pressing step, by pressing, against a corner portion on an outer peripheral edge of the rotor plate having the repeated shape, a die provided with an inclined surface contacting with the corner portion in accordance with the repeated shape, and by plastically deforming the corner portion.

Claim 2 (Withdrawn): The method of producing a brake disk according to claim 1, comprising an outer periphery cut-processing step for machining, after the chamfering step, a part on a leading end side of a ridged portion configuring the repeated shape, in accordance with a circular arc of a circle which is concentric with the center of rotation of the rotor plate, and cut-processing, on the corner portion, a chamfered surface continuing to the chamfered surface obtained by using the die.

Claim 3 (Withdrawn): The method of producing a brake disk according to claim 2, comprising, between the chamfering step and the outer periphery cut-processing step, a heat processing step for performing heat processing in order to cure a braking front face and a braking back face of the rotor plate.

Claim 4 (Withdrawn): The method of producing a brake disk according to claim 1, wherein, in the chamfering step, a chamfered surface is formed using the die, only on a corner portion with no sag, of the corner portions of the outer peripheral edge of the rotor plate, the sag being formed in the outer periphery pressing step.

Claim 5 (Withdrawn): The method of producing a brake disk according to claim 1, wherein the chamfering step is to form a chamfered surface throughout the entire periphery of the rotor plate having the repeated shape formed in the outer periphery pressing step, by pressing, against a corner portion on an outer peripheral edge of the rotor plate having the repeated shape, a die provided with an inclined surface contacting with the corner portion throughout the entire periphery of the rotor plate, in accordance with the repeated shape, and by plastically deforming the corner portion.

Claim 6 (Withdrawn): The method of producing a brake disk according to claim 1, wherein a chamfered length of the chamfered surface corresponds to the size of the sag of the corner portion on the outer peripheral edge of the rotor plate, the sag being formed in the outer periphery pressing

step.

Claim 7 (Withdrawn): The method of producing a brake disk according to claim 1, wherein a chamfered length from the corner portion on the outer peripheral edge of the rotor plate toward a direction of a surface contacting with the brake pad, and a chamfered length from the corner portion toward a direction of an outer peripheral end surface are greater than or equal to 0.1 mm and less than or equal to 2.0 mm.

Claim 8 (Withdrawn): The method of producing a brake disk according to claim 1, wherein a chamfered length from the corner portion on the outer peripheral edge of the rotor plate toward a direction of a surface contacting with the brake pad, and a chamfered length from the corner portion toward a direction of an outer peripheral end surface are greater than or equal to 0.1 mm and less than or equal to 1.0 mm.

Claim 9 (Withdrawn): The method of producing a brake disk according to claim 1, wherein a chamfered length from the corner portion on the outer peripheral edge of the rotor plate toward a direction of a surface contacting with the brake pad, and a chamfered length from the corner portion toward a direction of an outer peripheral end surface are greater than or equal to 0.2 mm and less than or equal to 0.7 mm.

Claim 10 (Currently Amended): A brake disk that rotates integrally with a wheel,
wherein a recessed and ridged portion which is recessed and protruded in a radial direction is formed repeatedly on an outer peripheral edge of a rotor plate of the brake disk along a circumferential direction by means of a press molding, and a sag is formed on a corner portion of a rear face side of the recessed and ridged portion by means of a press molding, a chamfered surface is provided on a press-molded corner portion of a front face side of the recessed and ridged portion by means of press molding,

a chamfered length of the press-molded chamfered surface on the front surface side of the recessed and ridged portion corresponds to the size of the press-molded sag on the rear surface side of the recessed and ridged portion, and

wherein metal composing the press-molded chamfered surface has properties resulting from being plastically deformed.

Claim 11 (Currently Amended): The brake disk according to claim 10,
wherein a cut-processed outer peripheral surface is formed in a leading end portion of [[a]] the ridged portion of the recessed and ridged portion by cut-processing a part on the leading end side of the ridged portion in accordance with a circular arc of a circle concentric with the center of rotation of the rotor plate, and a cut-processed chamfered surface which is formed on a cut-processed corner portion of the cut-processed outer peripheral surface by means of cut-processing is provided so as to continue to the press-molded chamfered surface obtained by means of the press molding.

Claim 12 (Currently Amended): The brake disk according to claim 10,

wherein the recessed and ridged portion is formed by means of press molding, and ~~[[a]]~~ the press-molded chamfered surface is formed, by pressing, on the front face side of the recessed and ridged portion where ~~[[a]]~~ the press-molded corner portion has no sag, while ~~[[the]]~~ a back face side of the recessed and ridged portion where a corner portion has a press-molded sag is made to serve as an attaching surface to a wheel.

Claim 13 (Cancel)

Claim 14 (Currently Amended): The brake disk according to claim 10,

wherein a chamfered length from the press-molded corner portion on the outer peripheral edge of the rotor plate toward a direction of a surface contacting with ~~[[the]]~~ a brake pad, and a chamfered length from the press-molded corner portion toward a direction of an outer peripheral end surface are greater than or equal to 0.1 mm and less than or equal to 2.0 mm.

Claim 15 (Currently Amended): The brake disk according to claim 10,

wherein a chamfered length from the press-molded corner portion on the outer peripheral edge of the rotor plate toward a direction of a surface contacting with ~~[[the]]~~ a brake ~~disk~~ pad, and a chamfered length from the press-molded corner portion toward a direction of an outer peripheral end surface are greater than or equal to 0.1 mm and less than or equal to 1.0 mm.

Claim 16 (Currently Amended): The brake disk according to claim 10,

wherein a chamfered length from the press-molded corner portion on the outer peripheral edge of the rotor plate toward a direction of a surface contacting with ~~[[the]]~~ a brake pad, and a chamfered length from the press-molded corner portion toward a direction of an outer peripheral end surface are greater than or equal to 0.2 mm and less than or equal to 0.7 mm.

Claim 17 (Withdrawn): The method of producing a brake disk according to claim 2, wherein, in the chamfering step, a chamfered surface is formed using the die, only on a corner portion with no sag, of the corner portions of the outer peripheral edge of the rotor plate, the sag being formed in the outer periphery pressing step.

Claim 18 (Withdrawn): The method of producing a brake disk according to claim 3, wherein, in the chamfering step, a chamfered surface is formed using the die, only on a corner portion with no sag, of the corner portions of the outer peripheral edge of the rotor plate, the sag being formed in the outer periphery pressing step.

Claim 19 (Currently Amended): The brake disk according to claim 11,

wherein the recessed and ridged portion is formed by means of press molding, and ~~[[a]]~~ the press-molded chamfered surface is formed, by pressing, on the front face side of the recessed and ridged portion where ~~[[a]]~~ the press-molded corner portion has no press-molded sag, while ~~[[the]]~~

a back face side of the recessed and ridged portion where a corner portion has a press-molded sag is made to serve as an attaching surface to a wheel.

Claim 20 (Currently Amended): The brake disk according to claim 11,
wherein a chamfered length of the combined press-molded and continued cut-processed chamfered ~~surface~~ surfaces corresponds to the size of ~~[[the]]~~ a press-molded sag of the corner portion on the outer peripheral edge of the rotor plate, the press-molded sag being formed by means of the press molding.